Abstract

The invention relates to the use of a metal complex as an n-dopant for doping an organic semiconducting matrix material in order to alter the latter's electrical characteristics, the compound constituting an n-dopant with regard to the matrix material. In order to provide n-doped organic semiconductors even with matrix materials having a low reduction potential, while achieving high conductivities, it is proposed to use, as the dopant compound, a neutral electron-rich metal complex with a central atom as a preferably neutral or charged transition metal atom with a number of valence electrons of at least 16. The complex may in particular be polynuclear and possess at least one metal-metal bond. At least one ligand may form a π complex with the central atom; it may be a bridge ligand, especially hpp, a borate, carborane or triazacycloalkane, or may contain at least one carbanion-carbon atom or a divalent atom selected from the group C (carbene), Si (silylene), Ge (germylene), Sn, Pb. The invention likewise relates to novel n-dopants and processes for producing them.